CHAPTER 1

Why Study Public Finance?

Questions to keep in mind

- What is public finance, and what are the key questions that the field addresses?
- What are the key facts about the size and growth of government and the distribution of taxes and spending?
- What are some of the most important policy debates in the United States?

On March 23, 2010, President Barack Obama signed into law the Patient Protection and Affordable Care Act, commonly known as the ACA. This law proposed to transform the system of health care coverage and financing in the United States.

Under the ACA, the government was projected to spend nearly $1 trillion on public health insurance and subsidies to private health insurance coverage between 2010 and 2019. This spending would be offset by spending reductions on existing public insurance programs and new taxes on the medical sector and the wealthy.

As a result of the ACA, insurance companies can no longer discriminate against sick patients, and individuals who can afford health insurance must purchase it or pay a penalty. In addition, dozens of new initiatives are being undertaken in an attempt to control runaway health care spending in the United States. The Congressional Budget Office (CBO) projected that, when the ACA was fully implemented in 2017, 26 million more Americans would have health insurance and that the government's deficit would fall by more than $100 billion from passage in 2010 through 2019. On the other hand, the Centers for Medicare and Medicaid Services projected that the law would, at the same time, raise health care spending in the United States by 1–2% by 2019.[1]

ROBERT DODGE/E+/GETTY IMAGES

[1] Gruber (2010) and CBO (2014).

The ACA is likely the most important piece of social policy legislation enacted in the United States in the past 40 years. Yet, despite its passage, the ACA continues to be debated ferociously in Congress, in the states, and in campaigns at all levels of government. Supporters argue that the bill corrects failed insurance markets, reduces the economic burden on the uninsured, and moves to control health care costs in the long run. Representative Nancy Pelosi, a Democrat who was Speaker of the House of Representatives during the initial debates over the ACA in 2009–2010, said the law was

> . . . personal for millions of families who've gone into bankruptcy under the weight of rising health care costs. . . . And it's personal for 45,000 Americans and their families who have lost a loved one each year because they didn't and couldn't get health insurance. . . . Today, we have the opportunity to complete the great unfinished business of our society and pass health insurance reform for all Americans that is a right and not a privilege.[2]

President Obama made his argument that

> This law will cut costs and make coverage more affordable for families and small businesses. It's reform that brings—that begins to bring down our government's long-term structural deficit. It's reform that finally extends the opportunity to purchase coverage to the millions who currently don't have it—and includes tough new consumer protections to guarantee greater stability, security, and control for the millions who do have health insurance.[3]

Opponents of the legislation viewed the ACA as an unwarranted expansion of government power into the health care sector—and an enormous expansion of government spending at a time of record deficits. Representative John Boehner, a Republican who succeeded Nancy Pelosi as Speaker of the House, issued a press release entitled "ObamaCare 'Will Increase Spending, Increase Taxes, & Destroy Jobs in America,'" and said that,

> Between reports from the Kaiser Family Foundation and the *Seattle Times* indicating that health care costs will skyrocket under ObamaCare, the Democrats' claims that their government takeover of health care will make health insurance more affordable doesn't pass the straight-faced test.[4]

After the vote to pass the ACA in 2010, Republican Representative Ron Paul said,

> It was truly a sad weekend on the House floor as we witnessed further dismantling of the Constitution, disregard of the will of the people, explosive expansion of the reach of government, unprecedented corporate favoritism, and the impending end of quality healthcare as we know it.[5]

---

[2] Pelosi quotes available at http://www.democraticleader.gov/blog/?p=2209 and http://pelosi.house.gov/news/press-releases/2010/04/releases-April10-hos.shtml (2010).

[3] Obama remarks at the Annual Conference of the American Medical Association, June 15, 2009; available at http://www.whitehouse.gov/the-press-office/remarks-president-annual-conference-american-medical-association.

[4] Boehner comments available at http://www.politifact.com/ohio/statements/2011/mar/31/john-boehner/house-speaker-john-boehner-labels-money-health-car/(2011)andhttp://healthcarereform.procon.org/view.answers.php?questionID=001526 (2015).

[5] Paul comments available at http://2012election.procon.org/view.answers.election.php?questionID=1706 (2012).

The debate over the ACA has not slowed with the implementation of the major provisions of the law in 2014. Significant problems in the roll-out of the federal website that was the public face of the ACA and numerous complaints of disruption among existing insurance relationships led to a further erosion in public support for the law. This low public support has been reflected in more than 50 votes in the House of Representatives to repeal the law. At the same time, in the first year of the law's implementation, it has been estimated that it reduced the number of uninsured people by more than one-third, with more than 16 million Americans gaining coverage.[6] Premiums for health insurance purchased through the new health insurance exchanges were 15% below levels projected by the CBO in 2014 and grew at historically low rates in 2015. Thus, as of 2015, the budgetary costs of the ACA were 20% below original projections.[7]

The controversies over the proper role of the government in dealing with health care coverage and costs raise the fundamental questions addressed by the branch of economics known as *public finance*. The goal of public finance is to *understand the proper role of the government in the economy*. On the expenditures side of public finance, we ask: What kind of services should the government provide, if any? Why should the government be spending hundreds of billions of dollars to provide health insurance to the uninsured (to cite just one example)? More generally, why is the government the primary provider of goods and services such as highways, education, and transfers to the unemployed, while the provision of goods and services such as clothing, entertainment, and property insurance is generally left to the private sector? On the revenue side of public finance, we ask: How much should the government tax its citizens, and how should that amount be related to the economic circumstances of those individuals? What kinds of activities should be taxed or be given tax relief in difficult times? What effect do taxes have on the functioning of the economy?

1.1 The Four Questions of Public Finance

In the simplest terms, **public finance** is the study of the role of the government in the economy. This is a very broad definition. This study involves answering the **four questions of public finance:**

- *When* should the government intervene in the economy?
- *How* might the government intervene?
- *What* is the effect of those interventions on economic outcomes?
- *Why* do governments choose to intervene in the way that they do?

In this section, we explore these four questions within the context of a specific example: the market for *health insurance,* in which individuals pay a monthly premium to insurance companies, in return for which insurance companies pay the individuals' medical bills if they are ill. This is only one of many markets in which the government is involved, but it is a particularly useful example

public finance The study of the role of the government in the economy.

four questions of public finance When should the government intervene in the economy? How might the government intervene? What is the effect of those interventions on economic outcomes? Why do governments choose to intervene in the way that they do?

[6] Enrollment details found at http://obamacarefacts.com/sign-ups/obamacare-enrollment-numbers (2015).
[7] Kliff and Klein (2015).

because health care spending is the single largest and fastest-growing part of the U.S. government's budget.

When Should the Government Intervene in the Economy?

To understand the reason for government intervention, think of the economy as a series of trades between producers (firms) and consumers. A trade is *efficient* if it makes at least one party better off without making the other party worse off. The total efficiency of the economy is maximized when as many efficient trades as possible are made.

The fundamental lesson of basic microeconomics is that, in most cases, the *competitive market equilibrium is the most efficient outcome for society*—that is, it is the outcome that maximizes the gains from efficient trades. As discussed in much more detail in Chapter 2, the free adjustment of prices guarantees that, in competitive market equilibrium, supply equals demand. When supply equals demand, all trades that are valued by both producers and consumers are being made. Any good that consumers value above its cost of production will be produced and consumed; goods that consumers value at less than their cost of production will not be produced or consumed.

If the competitive market equilibrium is the most efficient outcome for society, why do governments intervene in the operation of some of these markets? There are two reasons governments may want to intervene in market economies: market failures and redistribution.

market failure A problem that causes the market economy to deliver an outcome that does not maximize efficiency.

Market Failures

The first motivation for government involvement in the economy is the existence of **market failures,** problems that cause a market economy to deliver an outcome that does not maximize efficiency. Throughout this book, we discuss a host of market failures that impede the operation of the market forces you learned about in basic microeconomics. Here we briefly explore a failure in the health insurance market that may cause its equilibrium outcome to be inefficient.

At first glance, the market for health insurance seems to be a standard textbook competitive market. Health insurance is supplied by a large number of insurance companies and demanded by a large number of households. In the market equilibrium where supply equals demand, social efficiency should be maximized: anyone who values health insurance above its cost of production is able to buy insurance.

In 2010, before the Affordable Care Act, there were 49 million persons without health insurance in the United States, or 18.5% of the non-elderly population (as we'll discuss in Chapter 15, the elderly are provided universal health coverage in the United States under the Medicare program).[8] The existence of such a large number of uninsured does not, however, imply that the market doesn't work. After all, there are many more Americans who don't have a large-screen TV, or a new car, or a home of their own. That a small minority of the population is uninsured does not by itself prove that there is a

[8] Employee Benefit Research Institute (2011).

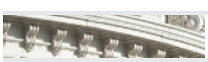
problem in the market; it just implies that those without insurance don't value it enough to buy it at existing prices.

Is this equilibrium outcome, which leaves 49 million people without health insurance, the most efficient outcome for society? It may not be, as the following example shows. Suppose that I am uninsured and, as a result, do not get my yearly vaccination for influenza. By not getting my flu shot, I increase my risk of getting the flu and increase the risk of passing it on to all of the students who come into contact with me and have not had flu shots. If these students become ill, their medical costs will rise, and their performance in class will worsen. Thus, the total or *social* value of health insurance is not just the improvement it causes in my health but also the improvement it causes in my students' health, which lowers their medical costs and improves class performance. Thus, I should have insurance if the total social value, both to myself and to others with whom I have contact, exceeds the cost of that insurance.

When I make my insurance decision, however, I don't consider that total social value, only the value to myself. Suppose that I value the insurance at less than its cost because I don't mind getting the flu but that society values the insurance at more than its cost because it is very costly for my students to go to the doctor and to perform poorly in class if they get sick. In this situation, I won't buy insurance, even though society (which includes me and my students) would be better off if I did. In this case, the competitive outcome has not maximized total social efficiency.

This is an example of a *negative externality*, whereby my decision imposes on others costs that I don't bear. As a result of this negative externality, I am underinsuring myself from society's perspective because I don't take into account the full costs that my medical decisions impose on others. We discuss externalities in much more detail in Chapters 5 and 6, but this example illustrates the type of market failure that can cause the competitive equilibrium to deliver a socially inefficient outcome. Later chapters in the book discuss other types of market failure as well.

If the competitive equilibrium does not lead to the efficiency-maximizing outcome, there is the *potential* for efficiency improvement through government intervention. Because the government can take into account not only my costs and benefits but also the costs and benefits to others, the government can compare the social costs to the social benefits more accurately and induce me to buy insurance if the total benefits exceed the total costs. As we emphasize in answering the fourth question, however, the fact that the private market outcome is not efficiency-maximizing does not imply that government intervention will necessarily improve efficiency.



ROBERT DODGE/E+/GETTY IMAGES

APPLICATION

Modern Measles Epidemics

One of the illnesses for which all children are supposed to be immunized is measles. Measles is transmitted from person to person by respiratory droplets and is characterized by a high fever and severe rash that lasts five to six days.

In the early 1960s, there were thought to be 3–4 million cases annually in the United States, resulting in 500 reported deaths each year. Other costs associated with measles infection included medical expenditures and work time lost for parents in caring for sick children.

Then, in 1963, a measles vaccine was introduced. Measles vaccination greatly reduces, but does not eliminate, the chance of contracting measles, and the vaccine can wear off over time if you don't get periodic "booster" shots to reactivate the immunity. As a result of the vaccine, measles cases had become relatively rare in the United States by the 1980s, with fewer than 3,000 cases reported per year and very few deaths.

Over the period from 1989 to 1991, however, there was a huge resurgence in measles in the United States, with more than 50,000 cases and 123 deaths from a disease thought to be largely eradicated. This outbreak resulted from very low immunization rates among disadvantaged inner-city youths. One-third of all of the new cases were in Los Angeles, Chicago, and Houston, and one-half of those children who contracted measles had not been immunized, even though many had regular contact with a physician. These unimmunized children were imposing a negative externality on other children who had received their immunizations but for whom immunization may have worn off. There was a negative externality because the unimmunized children raised the risk that these other children would become sick, without bearing any of the costs of raising this risk.

The federal government responded to this health crisis in the early 1990s, first through publicly encouraging parents to get their children immunized and then through an initiative that paid for the vaccines for low-income families. The result was impressive. Immunization rates, which had never been above 70% before the epidemic, rose to 90% by 1995.[9] And from 2001 to 2011, there were, on average, only 62 cases per year.

But the problem of measles epidemics was back in the news in 2014 as the number of cases reached a level not seen since the early 1990s: 644 cases in 27 states.[10] Most newsworthy was a measles outbreak in Disneyland in Anaheim, California, in the winter of 2014–2015. From December 28, 2014, to March 13, 2015, 145 people from seven states had measles linked to the outbreak at Disneyland.[11]

The reason for this resurgence is the refusal of a large number of parents to immunize their children, despite the expansion of public education and the availability of low-cost immunization. This refusal is often linked to a widely cited (but now completely discredited) relationship between childhood vaccinations and autism, based on a 1998 study in the British journal *The Lancet* that claimed to have found such a relationship. Subsequently, however, study after study has repudiated this finding, and the article was formally retracted in 2010, with *The Lancet* editors announcing that it was "utterly clear, without any ambiguity at all, that the statements in the paper were utterly false."[12]

---

[9] Discussion of 1989–1992 epidemic comes from Wood and Brunell (1995).
[10] Belluz (2014).
[11] Ellis (2015).
[12] Lallanilla (2014).

Nevertheless, a strong "anti-vaccine" movement had taken root, resulting in sizable pockets of nonimmunized children in some areas. For instance, on Vashon Island, Washington, 17% of kindergartners—greater than nine times the national average[13]—failed to receive their shots in 2013 due to a "personal/philosophical" exemption.[14] A 2012 study of vaccine exemption policies across the country found that of the 20 states that allow personal-belief exemptions, 9 states make exemptions easy to obtain by simply requiring a form to be signed. Opt-out rates in states that allow personal-belief exemptions are 2.5 times as high as rates in states that only permit religious exemptions.[15] Research has found that outbreaks are far more likely to happen in these areas with lower vaccination rates.[16]

This new rise in measles has raised questions of whether government policy needs to go further than the interventions of the early 1990s. For example, California recently enacted legislation that would make it more difficult for parents to opt out of vaccinations for their children and requires children to be vaccinated against specific contagious diseases before enrolling in California schools.[17] The balance for the government between ensuring public health and respecting individual preferences is one of the more significant policy issues that we discuss throughout this book. ■

Redistribution The second reason for government intervention is **redistribution,** the shifting of resources from some groups in society to others. Think of the economy as a pie, the size of which is determined by the social efficiency of the economy. If there are no market failures, then the private market forces of demand and supply maximize the size of the pie; if there are market failures, there is the potential for the government to increase the size of the pie.

redistribution The shifting of resources from some groups in society to others.

The government may care not only about the size of the pie, however, but also its distribution, or the size of each person's slice. For reasons we discuss in Chapter 2, society may decide that the resource allocations provided by the market economy are unfair; for example, society may view another dollar of consumption by a very rich person as less valuable than another dollar of consumption by a very poor person. The primary way to correct such misallocations is through government interventions that redistribute resources from those groups that society has deemed "too well off" to those groups that society has deemed "not well off enough." For example, in the United States in 2010, 70% of the uninsured were in families with incomes below $50,000. Thus, society may feel that it is appropriate to redistribute from those with insurance, who tend to have higher incomes, to those without, who tend to have lower incomes.

In some cases, society can undertake redistributions that change only the distribution of the pieces and not the size of the pie itself. Usually, however, redistributing resources from one group to another will entail *efficiency losses*. These losses occur because the act of redistribution causes individuals to shift

[13] Centers for Disease Control and Prevention (2014).
[14] Raja and Mooney (2014).
[15] *New England Journal of Medicine* (2012).
[16] Atwell (2013).
[17] Martinez and Watts (2015).

their behavior away from the efficiency-maximizing point. For example, if we tax the rich to distribute money to the poor, then this tax may cause the rich to work less hard (because they don't get to take home as much money from their work) and the poor to work less hard (because they don't have to work as hard to maintain their living standards). When these groups work less hard, they don't produce goods that would be valued by consumers at more than they cost to produce, so social efficiency is reduced.

In general, then, there will be a trade-off between the size of the pie and the distribution of the pie, which we call an *equity–efficiency trade-off.* Societies typically have to choose between pies that are larger and more unequally distributed and pies that are smaller and more equally distributed.

How Might the Government Intervene?

Having decided whether to intervene, the next question is how the government should do so. There are several different general approaches that the government can take to intervention.

Tax or Subsidize Private Sale or Purchase One way that the government can try to address failures in the private market is to use the *price mechanism,* whereby government policy is used to change the price of a good in one of two ways:

1. Through *taxes,* which raise the price for private sales or purchases of goods that are overproduced, or
2. Through *subsidies,* which lower the price for private sales or purchases of goods that are underproduced.

Returning to the example of health insurance, one key element of the ACA is the subsidization of health insurance costs for low-income families, although those subsidies are delivered through the tax code as a tax credit that offsets the cost of insurance.

Restrict or Mandate Private Sale or Purchase Alternatively, the government can directly restrict private sale or purchase of goods that are overproduced or mandate private purchase of goods that are underproduced and force individuals to buy that good. The ACA mandates that individuals purchase health insurance or face a tax penalty. Many other nations, such as Germany and Switzerland, mandate that almost all citizens have health insurance coverage.

Public Provision Another alternative is to have the government provide the good directly in order to potentially attain the level of consumption that maximizes social welfare. In the United States, more than one-quarter of the population has insurance that is provided to it directly by the government; in Canada and many other developed nations, the entire population of the country has insurance that is provided directly by the government.

Public Financing of Private Provision Finally, governments may want to influence the level of consumption but may not want to involve themselves directly in the provision of a good. In such cases, the government can finance private entities to provide the desired level of provision. For example, the 2003 legislation to add a prescription drug benefit to the U.S. Medicare insurance program for the disabled and elderly involves federal government reimbursement of private insurers to provide prescription drug insurance.

As you can see, there is a wide spectrum of policy options. When considering how to intervene, policy makers should evaluate alternative options carefully before deciding which option is best. This evaluation leads naturally to the third question: How can we evaluate alternative policy options?

What Are the Effects of Alternative Interventions?

Answering this third question requires that policy makers understand the implications of each policy option under consideration. This evaluation is the focus of *empirical public finance,* which involves gathering data and developing statistical models to assess how people and firms might respond to policy interventions. We discuss empirical public finance in much more detail in Chapter 3.

In assessing the effects of government interventions, policy makers must keep in mind that any policy has *direct and indirect effects*.

Direct Effects The **direct effects** of government interventions are those effects that would be predicted if individuals did not change their behavior in response to the interventions. For example, suppose that in 2010, the government had decided to address the problem of the uninsured by providing free public health care, as is done in the United Kingdom. The government computed that, with 49 million uninsured and an average cost of treating each uninsured person of $2,500 per year, this intervention would cost about $125 billion per year. This is a huge amount, but it was much smaller than existing spending on health care by the U.S. government ($818 billion in 2010). According to this calculation, the government could have covered all of the uninsured for less than 3.5% of the federal budget of $3.7 trillion.[18]

direct effects The effects of government interventions that would be predicted if individuals did not change their behavior in response to the interventions.

Indirect Effects The **indirect effects** of government intervention are effects that arise only because individuals change their behavior in response to the interventions. For example, being uninsured is something that people can change about themselves; it is not a fixed personal characteristic such as being male or African American. By providing free health care to those who are uninsured, the government provides strong incentives for those paying for their own health insurance to drop that insurance and take part in the government's free health care program.

indirect effects The effects of government interventions that arise only because individuals change their behavior in response to the interventions.

Suppose that half of the non-elderly who are privately insured behaved this way. This would add another 88 million persons to the pool using this public source of health care. If each person in this group also costs $2,500 on average, the government cost of the program would almost triple to $340 billion per year! On the other hand, if only 10% of the privately insured behaved this way, the government cost of the program would rise to only $165 billion per year.

[18] Office of Management and Budget (2006a), Table 3.1.

The key question for evaluating free public health care for the uninsured is, therefore: How many privately insured will drop their privately purchased coverage to join a free public option? This is an empirical question. The public finance economist needs some means of drawing on data to make the best estimate of the extent of such movement. Throughout this book, we discuss a variety of ways that empirical public finance economists make such estimates and how economists use these to inform their understanding of the effects of alternative government interventions.

APPLICATION

The CBO: Government Scorekeepers

Empirical economics is not just the plaything of academics. The methods and results derived from empirical economics are central to the development of public policy at all levels of government. A particularly good example of the power of empirical economics is provided by the CBO.

The CBO was created in 1975 with a mission to provide Congress with the objective, timely, nonpartisan analyses needed for economic and budget decisions.[19] The CBO increasingly plays a critical role as a "scorekeeper" for government policy debates. Legislative spending proposals that are to become law must first have their costs estimated by the analysts at the CBO. Given budgetary pressures on the federal government, policy makers have increasingly referred their legislation to the CBO earlier and earlier in the development process. If they know what "score" their spending proposal will receive (i.e., how much the CBO says it will cost), they can tailor the proposal to fit within a given budget target.

It is not an overstatement to say that the economists who work at the CBO frequently hold the fate of a legislative proposal in their hands. Indeed, the large price tag that the CBO assigned to the Clinton administration's plan to reform health care in the United States in 1994 is often cited as a key factor in the defeat of that proposal.[20] The CBO played an equally influential role in the 2009–2010 debate over health care reform that led to the ACA—as one reporter wrote, "the 25-page 'score' of the legislation was treated as holy writ in Washington."[21] The methods we study in Chapter 3 and many of the results that we learn about throughout this book are central to the internal deliberations of the analysts at the CBO.

"We don't use the Congressional Budget Office."

[19] Information on the CBO comes from its website: http://www.cbo.gov/aboutcbo/.

[20] The Clinton administration had claimed that its health care reform plan would save the nation $60 billion over the 1995–2000 period, but the CBO (1994) reported that, in fact, it would cost the nation $70 billion over that period.

[21] Irwin (2010).

Why Do Governments Do What They Do?

Finally, as students of public policy, we must recognize that we cannot simply model governments as benign actors who intervene only to mitigate market failures or assure the proper distribution of social resources. In practice, the government faces the difficult problem of aggregating the preferences of millions of citizens into a coherent set of policy decisions, raising the fourth question of public finance: Why do governments do what they do? Note the important difference between this question and the second (How should governments intervene?). The second question was a *normative* question, one concerned with how things should be done. This is a *positive* question, one concerned with why things are the way they are.

To answer this question, we turn in Chapter 9 to the tools of **political economy,** the theory of how governments make public policy decisions. Governments face enormous challenges in figuring out what the public wants and how to choose policies that match those wants. In addition, governments may be motivated by much more than simply correcting market failures or redistributing income. Just as there are a host of market failures that can interfere with the welfare-maximizing outcome from the private market, there are a host of *government failures* that can lead to inappropriate government interventions. Politicians must consider a wide variety of viewpoints and pressures, only two of which are the desire to design policies that maximize economic efficiency and redistribute resources in a socially preferred manner.

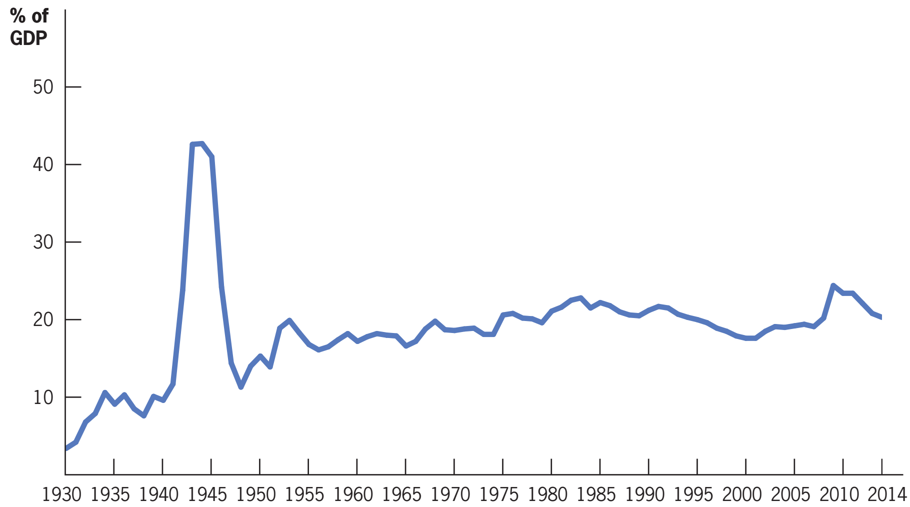
political economy The theory of how the political process produces decisions that affect individuals and the economy.

One only needs to look at the wide variety of health insurance policies in very similar countries to see that governments may have more in mind than efficiency or redistribution. Why does the United States rely primarily on private health insurance, while Canada, a similar country bordering the United States, relies on national public health insurance? Why does Germany mandate private health insurance coverage, while the United Kingdom provides free national health care? Coming back to the first question (When should the government intervene?), then, we have an additional concern that must be addressed before recommending government intervention: In practice, will the government actually reduce or solve the problem? Or will government failures cause the problem to grow worse?

1.2 Why Study Public Finance? Facts on Government in the United States and Around the World

Thus far, we have clarified what public finance is. But it still may not be clear why you should spend your precious time on this topic. What makes public finance so compelling is the dominant role that governments play in our everyday lives. In this section, we detail that role by walking you through the key facts about government in the United States and other developed nations. In addition, to motivate the study of public finance, we propose some interesting questions that arise from these facts.

FIGURE 1-1



Federal Government Spending as a Percentage of GDP, 1930–2014 • From 1930 to 2014, federal government spending as a share of GDP has grown from 3.4 to 20.3%. The huge spike in spending over the 1941–1945 period was due to the massive increase in defense expenditures during World War II.

Data from: Office of Management and Budget (2015).

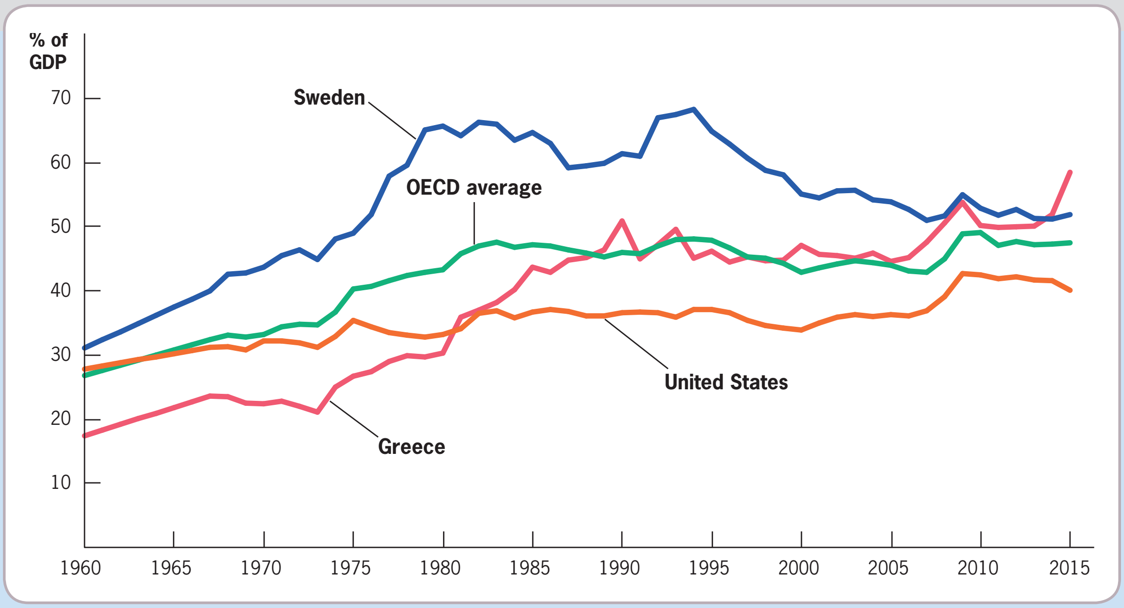
The Size and Growth of Government

Figure 1-1 shows the growth in federal government spending in the United States over the twentieth century. In 1930, the federal government's activity accounted for only about 3.4% of gross domestic product (GDP). Government spending expanded during the Great Depression and grew even more dramatically during World War II, hitting a peak of almost half of GDP in 1943. From the 1950s through the present, the size of government has averaged around 20% of GDP, although it grows during recessions such as those in the early 1980s, the early 1990s, and the most recent few years, reaching nearly one-quarter of GDP in 2009 before settling back down at 20% by 2014.

This growth is mirrored in other developed nations, as seen in Figure 1-2. This figure shows the growth of government spending since 1960 in the United States, Sweden, and Greece and the average for the industrialized nations that are part of the Organization for Economic Cooperation and Development (OECD). The patterns are quite interesting. In 1960, the United States was squarely in line with the average of the OECD in terms of the government spending share of GDP.[22] Yet, government growth was much faster in other OECD nations in the 1960s and 1970s than in the United States, so that by 1980, the U.S. government share was much smaller. Greece started with a

[22] Note that the size of government as a share of GDP is larger in Figure 1-2 than in Figure 1-1; this is because Figure 1-2 includes all levels of government, while Figure 1-1 is for federal government only.

FIGURE 1-2



Total Government Spending Across Developed Nations, 1960–2015 • Government spending as a share of GDP has grown throughout the developed world, but the pace of growth has varied. The United States has seen a modest growth in its government share over this period, while government spending in Greece has more than tripled as a share of the economy.

Data from: OECD, 1982 (Table 6.4); OECD, 1986 (Table 6.5); OECD, 1992 (Table 6.5); OECD, 1995 (Table 6.5); OECD, 2002 (Table 6.5); OECD, 2003; OECD, 2011 (Annex Table 25); Heritage Foundation and *Wall Street Journal* (2015).

government share well below that of the United States in 1960, but government tripled as a share of Greece's GDP so that today, its share is much larger than the U.S. government's share.[23] In 1960, Sweden's government's share of GDP was similar to other nations', but this share grew enormously so that by the early 1990s, government spending was about two-thirds of Sweden's GDP. Since then, Sweden's government's share has fallen rapidly and now accounts for slightly more than half of GDP, slightly less than that of Greece.[24]

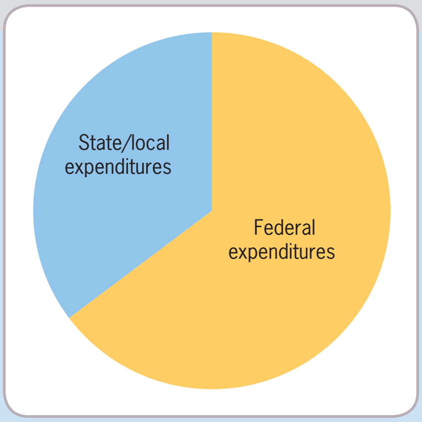
- What explains the growth in government spending over the twentieth century?

Decentralization

A key feature of governments is the degree of *centralization* across local and national government units—that is, the extent to which spending is concentrated at higher (federal) levels or lower (state and local) levels. Figure 1-3

[23] The recent spike in Greece's spending is due to the collapse of its economy, which has raised government spending relative to GDP.
[24] The fact that Sweden has survived the recent economic downturn much more successfully than Greece, despite similar-sized government sectors, suggests that something other than the size of government is driving these nations' relative performances.

FIGURE 1-3



Federal vs. State/Local Government Spending, 2014 • State and local spending today amounts to roughly one-third of total government spending in the United States, at more than 11% of GDP.

Data from: Office of Management and Budget (2015).

shows government spending in the United States divided into the share of spending by the federal government and the share of spending by other levels of government: state, county, and local governments. The federal government provides the majority of government spending in the United States, but other government spending is quite large as well, amounting to roughly one-third of total government spending and more than 11% of GDP. The level of centralization (the share of spending done by the federal government) varies widely across nations, sometimes rising to almost 100% in countries where the federal government does almost all of the government

- What is the appropriate extent of centralization and decentralization in government activity?

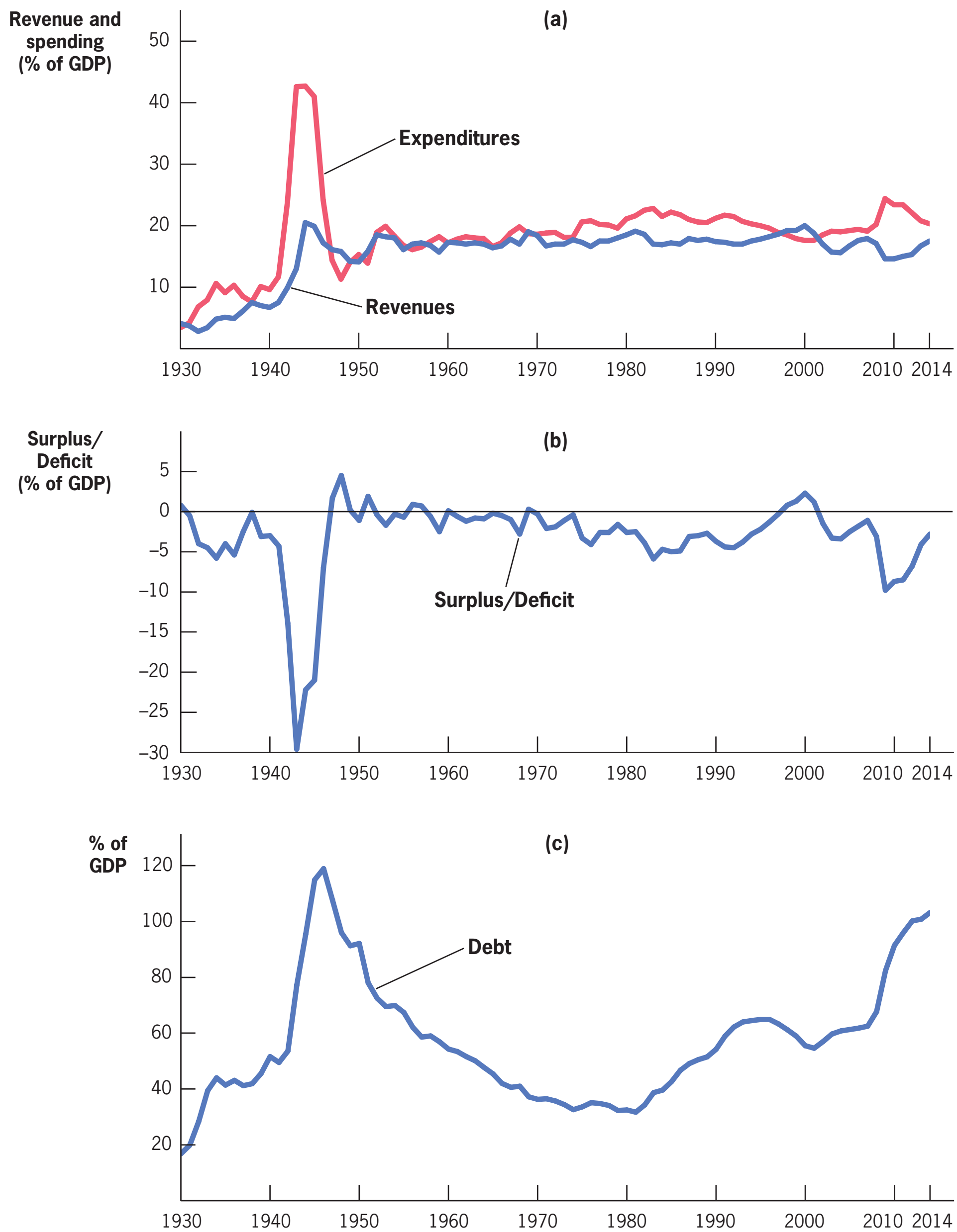
Spending, Taxes, Deficits, and Debts

When you run a household, you live on a budget. Outflows of cash for groceries, rent, clothing, entertainment, and other uses must be financed by inflows of cash from work or other sources. Any excess of income over spending is a *cash flow surplus* that can be saved to finance your own spending in future periods or, by way of an inheritance (also referred to as a *bequest*), your children's spending after you die. Any shortfall of income below spending is a *cash flow deficit* and must be financed by past savings or by borrowing from others. Any borrowing results in the buildup of some household *debt,* which must ultimately be repaid from future inflows of cash.

Fundamentally, the finances of the government are no different. Its outflows are government spending and its inflows are tax revenues. If revenues exceed spending, then there is a budget surplus; if revenues fall short of spending, there is a budget deficit. Each dollar of government deficit adds to the stock of government debt. That is, the *deficit* measures the year-to-year shortfall of revenues relative to spending; the *debt* measures the accumulation of past deficits over time. This government debt must be financed by borrowing from either citizens of one's own local or national area, or by borrowing from citizens of other areas or other nations.

The three panels of Figure 1-4 show government spending and revenues, the deficit or surplus, and the level of government debt for the U.S. federal government. As shown in panels (a) and (b), with the exception of an enormous increase in spending unmatched by increased taxation during World War II (1941–1945), the federal government's budget was close to balanced until the late 1960s. From the mid-1970s through the mid-1990s, there was a relatively large deficit that rose to about 5% of GDP. This deficit shrank dramatically in the 1990s and actually turned into a sizeable surplus by the end of the decade. But the United States was back in deficit by the early twenty-first century, at levels similar to those in the 1970s. The deficit has become very large in the late 2000s, reaching levels not seen in the postwar period. But in

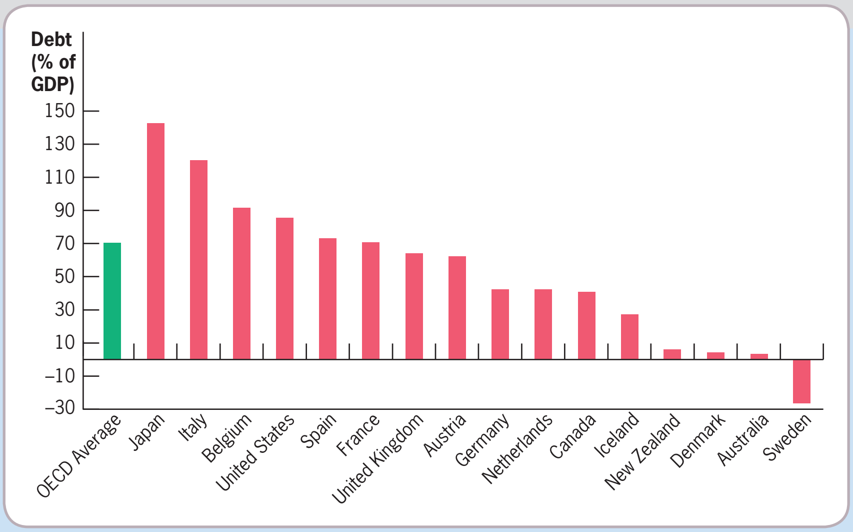
FIGURE 1-4



Federal Revenues and Expenditures, Surplus or Deficit, and Debt, 1930–2014 • For most of the twentieth century, except for the World War II period, federal government tax receipts have kept pace with expenditures. But expenditures have exceeded receipts by several percentage points of GDP on average since the 1970s. The resulting federal government debt is now at more than 100% of GDP.

Data from: Office of Management and Budget (2015). (Debt figures for 1930–1939 come from the U.S. Department of the Treasury's Bureau of the Public Debt.)

FIGURE 1-5



Debt Levels of OECD Nations in 2014 • The United States has a debt level that is typical of developed nations, although there is wide variation.

Data from: Organization for Economic Cooperation and Development (2014).

the mid-teens, increases in revenues and decreases in spending have brought the deficit back to the level typical of the past 40 years.

The resulting implications for the federal debt are shown in panel (c) of Figure 1-4. The stock of debt rose sharply in World War II, then fell steadily until large deficits caused it to rise in the 1980s. The debt has risen considerably since, with a brief pause in the mid- to late 1990s, and now is more than 103% of GDP. Figure 1-5 compares the level of U.S. debt to the level of debt of other developed nations. The United States has higher debt levels than most other comparable nations, but its load remains well below others.

- What are the costs of having larger deficits and a larger national debt?

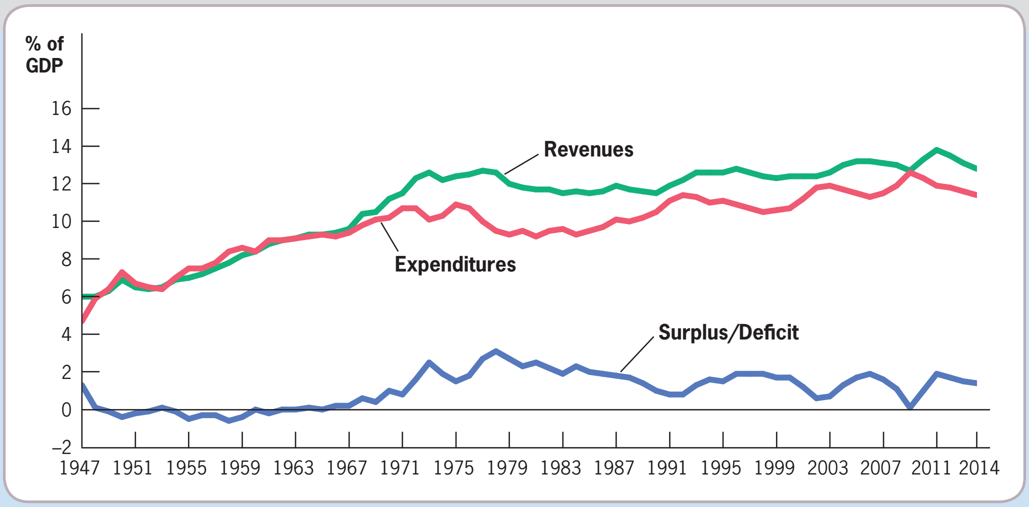
Figure 1-6 shows the spending and revenues of state and local governments over time in the United States. Interestingly, unlike the federal government, state and local governments' budgets are typically in surplus: there is very little deficit overall across the state and local governments in any year.

- Why are state and local governments able to balance their budgets, while the federal government is not?

Distribution of Spending

Thus far, we have discussed only the sum total of government spending in the United States and not on what these funds are spent. Figure 1-7 shows the distribution of spending across several broad categories for the federal government and state and local governments in 1960 and 2014. Several conclusions are apparent. First, the composition of federal government spending [panel (a)] has changed dramatically over time. In 1960, nearly half of federal government spending was on national defense, military expenditures either at home or abroad.

FIGURE 1-6



State and Local Government Receipts, Expenditures, and Surplus, 1947–2014 • State and local revenues almost always exceed expenditures.

Data from: Office of Budget and Management (2015).

Defense is a classic example of what economists call a **public good,** goods for which the investment of any one individual benefits a larger group of individuals: if I purchased a missile to protect Boston, that would benefit not just me but all of the residents of the city. As we will discuss at length in Chapter 7, the private sector may underprovide such public goods: if I bear the full cost of buying a missile, but it benefits everyone in town, then I probably won't spend the money on that missile. This makes provision of public goods an important job for the government, as reflected in the large share of government spending in this area.

public goods Goods for which the investment of any one individual benefits everyone in a larger group.

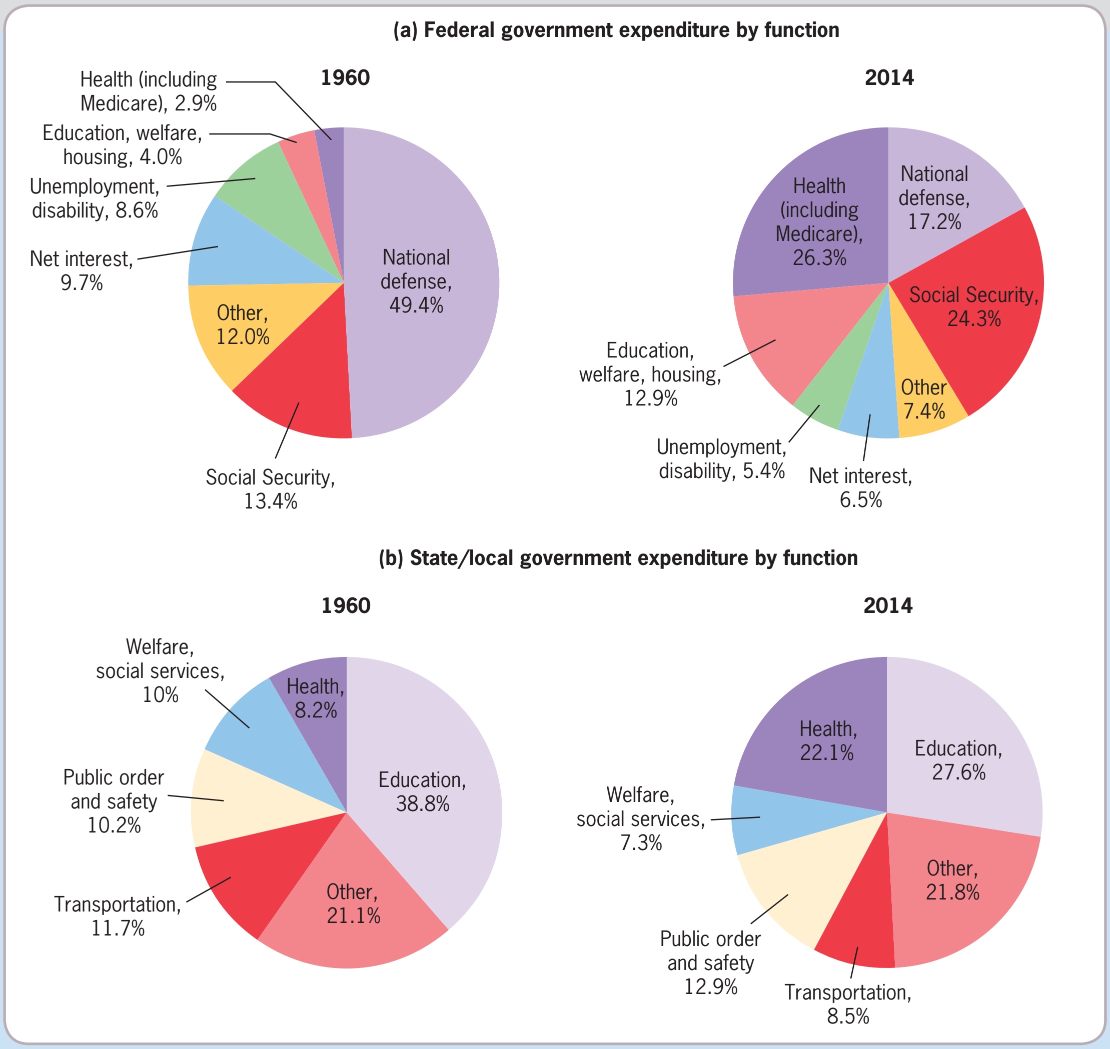
Today, however, defense spending has fallen to less than one-fifth of the federal budget. The offsetting spending growth can be found largely in two areas. The first is the Social Security program, which provides income support to the elderly who are retired from their jobs. This is the single largest government program in the United States today, consuming about 24.3% of the entire federal budget. Another large and rapidly growing category is health care programs, a variety of federal government interventions to provide health insurance for the elderly, the poor, and the disabled; these programs consume more than 26% of the budget.[25]

Programs such as Social Security and government health insurance programs are called **social insurance programs,** programs designed to address failures in private insurance markets. As we discussed earlier, private health insurance markets may not provide the appropriate amount of health insurance to the population. This market failure has motivated the government to intervene in health insurance markets; indeed, almost one-half of all health

social insurance programs Government provision of insurance against adverse events to address failures in the private insurance market.

[25] Office of Management and Budget (2015).

FIGURE 1-7



The Distribution of Federal and State Expenditures, 1964 and 2014 • This figure shows the changing composition of federal and state spending over time, as a share of total spending. (a) For the federal government, defense spending has fallen and Social Security and health spending have risen. (b) For the states, the growth in health care spending has led to a reduction in education spending.

Data from: Bureau of Economic Analysis, NIPA Table 3.16; Office of Management and Budget (2015).

spending in the United States is done by governments. Similarly, the federal government is concerned that individuals may not plan appropriately for the decline in income they will face when they retire, which motivates the existence of the Social Security program.

- Are large government interventions in insurance markets warranted, and do they correct or exacerbate market failures?

The distribution of state and local spending [Figure 1-7, panel (b)] is much different. At the state and local levels, education, welfare, and public safety account for almost 40% of spending. Less than 10% of federal spending supports these programs. Likewise, there are no Social Security or defense expenditures at the state or local level. The major development over time at the state and local levels has been the parallel growth in health care spending and the reduction in education spending, raising important issues of whether the more expensive health care system is reducing (or what we will later refer to as "crowding out") state and local support for education.

- What is the appropriate type of spending to be done at the federal versus state or local level?

Distribution of Revenue Sources

Figure 1-8 breaks down the sources of federal and state and local revenue over time. The major source of revenue for the federal government [panel (a)] is the individual *income tax,* a tax levied on the income of U.S. residents. This tax provides somewhat less than half of federal revenues and has remained roughly constant as a share of revenues over time. The major shift over time at the federal level has been the rapid shrinking of corporate tax revenues, the funds raised by taxing the incomes of businesses in the United States. While corporate tax revenues once provided almost 25% of federal government revenue, they now provide only about 15%. There has also been a sizeable reduction in *excise taxes,* taxes levied on the consumption of certain goods such as tobacco, alcohol, or gasoline.

The decrease in revenue from these taxes has been largely replaced by the growth of revenue from *payroll taxes,* the taxes on worker earnings that fund social insurance programs. Payroll taxes differ from the income tax in that the income tax includes all sources of income, such as the return on savings, while payroll taxes apply solely to earnings from work. Payroll taxes have grown from one-sixth of federal revenues to well over one-third.

- What are the implications of moving from taxing businesses and consumption to taxing workers' earnings?

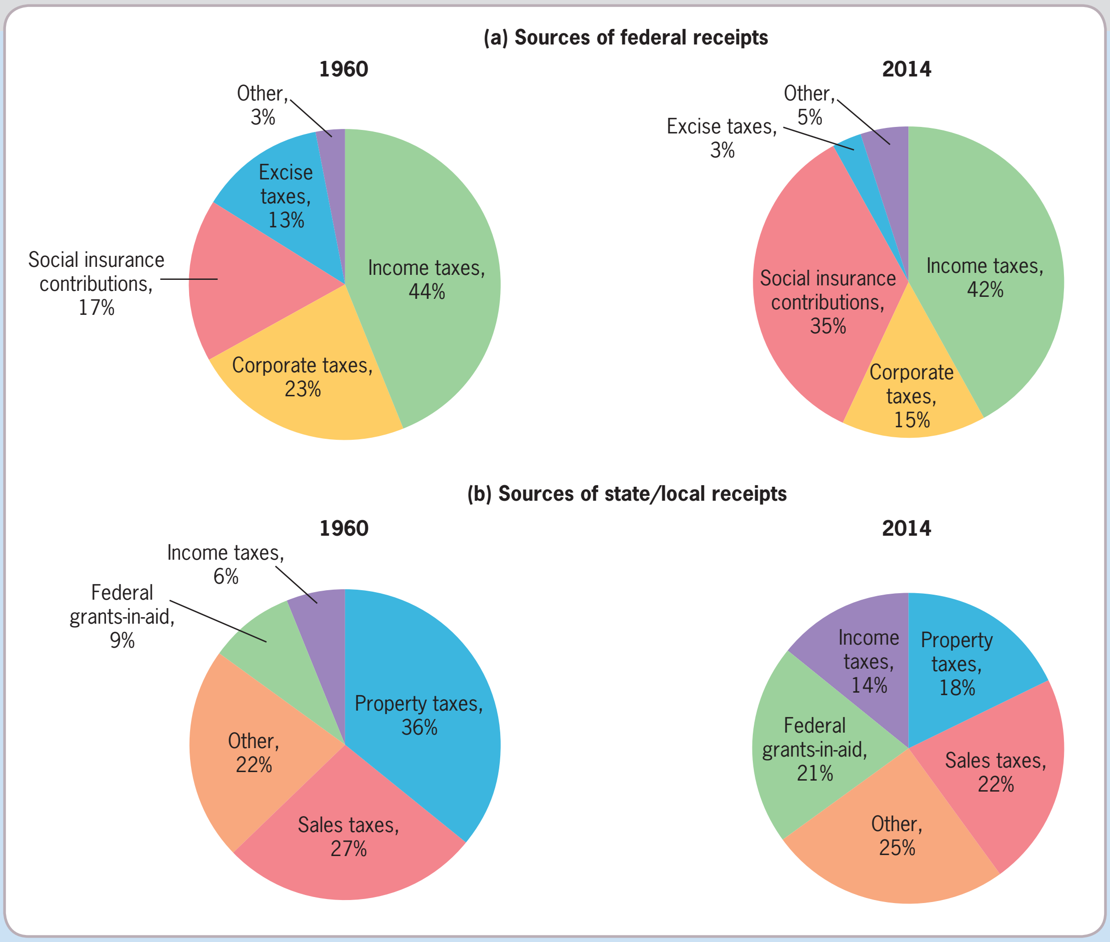
At the state and local levels [Figure 1-8, panel (b)], revenue sources are roughly equally divided between *sales taxes* (including state and local excise taxes on products such as cigarettes and gasoline), federal *grants-in-aid* (redistribution of funds from the federal government to lower levels of government), income taxes, and *property taxes* (taxes on the value of individual properties, mostly homes). Over the past 40 years, the substantial drop in revenue from property taxes has been made up by rising federal grants and income taxes.

- What are the implications of shifting from taxation of property to taxation of income?

Regulatory Role of the Government

The discussion throughout this section has focused on the government as an entity that exerts influence through its powers of taxation and spending. Another critical role the government plays in all nations is that of *regulating*

FIGURE 1-8



The Distribution of Federal and State Revenues, 1960 and 2014 • This figure shows the changing composition of federal and state revenue sources over time, as a share of total revenues. (a) At the federal level, there has been a large reduction in corporate and excise tax revenues and a rise in payroll tax revenues. (b) For the states, there has been a decline in property taxes and a rise in income taxes and federal grants.

Data from: Bureau of Economic Analysis (2015).

economic and social activities. Consider some examples of how daily existence is affected by the government in the United States:[26]

- The foods you eat and the medications you take have all been approved by the Food and Drug Administration (FDA), an agency that spends less than 0.1% of the government's budget each year, but whose regulatory powers cover $1 trillion worth of goods annually, more than

[26] Information on these regulatory agencies can be found at their respective websites: http://www.fda.gov, http://www.osha.gov, http://www.fcc.gov, http://www.epa.gov, and http://www.uspto.gov.

15% of total consumer expenditures.[27] The FDA regulates the labeling and safety of nearly all food products and bottled water, tests cosmetics to ensure their safety, and approves drugs and medical devices to be sold to the public.

- If you've lost a limb or developed carpal tunnel syndrome because of your work, you might want to contact the Occupational Safety and Health Administration (OSHA), which is charged with regulating the workplace safety of the 130 million Americans employed at more than 8 million job sites. In 2015, the agency sent its 22,000 inspectors on 47,217 visits to workplaces, which resulted in reports of more than 96,000 workplace violations for which firms paid more than $160 million in penalties.[28]
- The radio stations in your car and the channels you watch on cable are regulated by the Federal Communications Commission (FCC), which regulates interstate and international communications by radio, television, wire, satellite, and cable. Check any device in your home that emits radiation of communication frequencies (wireless phones, remote controls, etc.) and you'll find an FCC identification number somewhere on it.
- The air you breathe, the tap water you drink, and the land your home is built upon are all regulated by the Environmental Protection Agency (EPA), which is charged with minimizing dangerous pollutants in the air, water, and food supplies.

1.3 Why Study Public Finance Now? Policy Debates over Social Security, Health Care, and Education

No matter when you take a public finance course, it will be the most timely economics course you will take! This is because the questions we address in this book are the questions that are always in the news and that are the source of current policy debates. Indeed, three of the major policy issues facing the United States today—Social Security, health care, and education—are each the subject of different chapters. In this section, we review the debate over these issues, paraphrasing the "liberal" and "conservative" positions on each topic. Once again, our discussion of these issues raises important questions that we address in the chapters on these topics.

Social Security

As just noted, Social Security is the single largest government expenditure program. As we learn in great detail in Chapter 13, the financing structure of this program is basically that today's young workers pay the retirement benefits

[27] Food and Drug Administration (2015).
[28] Occupational Safety and Health Administration (2015).

of today's older retirees. So long as the number of young people remains large relative to the number of older persons, this system works. As the giant group of baby boomers (the roughly 75 million people born between 1946 and 1964) moves into old age, however, the system is running into trouble: the ratio of working-age taxpayers to elderly recipients was almost 8 to 1 in 1950 but by 2050 is projected to be less than 3 to 1.[29] Indeed, our Social Security system is projected to have insufficient funds to pay promised retiree benefits in fewer than 20 years.[30] What should we do about this problem? As with many questions we discuss throughout this course, conservatives and liberals provide very different answers to this question. Liberals argue that the Social Security system has worked well and that we should simply shore it up by raising the necessary resources through higher payroll taxes or some other means. As we learn later in this book, however, higher taxes may be costly in terms of reducing the efficiency with which the economy operates. Moreover, they are not very politically popular!

Conservatives argue instead that this demographic episode points out the fundamental weakness in our system, which relies on transfers from the young to the old. They claim that we should replace this system with a system in which individuals save for their own retirement. This approach has the problem that there are currently a large number of elderly to whom Social Security benefits are owed, and the government must find some way of financing those payments.

- How large a role should the government play in mandating or regulating an individual's retirement savings? How can the government best reform the Social Security system to address its long-range funding shortfall?

Health Care

As noted earlier, by 2010 there were about 50 million Americans without any health insurance, amounting to about 18% of the non-elderly U.S. population. A large body of evidence suggests that their medical treatment and health outcomes are significantly worse as a result of their being uninsured. Moreover, health care costs continue their long-term trend of rising much faster than GDP—projections suggest that health care will consume half of our GDP before the end of the century, compared to just 5% in 1950 and 17.4% in 2010.[31]

While these problems have been long recognized, politicians on the left and right have been battling for almost a century on how to reform health care. Those on the left would prefer a government-based solution along the lines of the "single-payer" system in Canada, with government-financed universal

---

[29] U.S. Bureau of the Census (2014). Historical data comes from earlier versions of the *Statistical Abstract of the United States*. Working-age taxpayers are 18 to 64 years old.
[30] Social Security Trustees (2014).
[31] Centers for Medicare and Medicaid Services (2014).

coverage and centrally imposed cost controls. Those on the right put more faith in the private market to solve our health care problems through tax subsidies to private insurance and increased competitive pressure in the health care sector through more individual choice and information.

The passage of the ACA represented an attempt to walk the middle ground between these views. As we discuss in detail in Chapter 16, the ACA expanded the government's role by increasing regulation of insurance markets, mandating insurance coverage, and introducing large new subsidies for the purchase of health insurance. At the same time, the ACA relies on expanded private health insurance through state exchanges, through which individuals are given a competitive set of choices from which to choose a health insurance plan. But the ACA only starts us down the road toward health care cost control, with many critical decisions to be made in the years to come, most importantly about how the nation will ultimately constrain its explosive health care spending.

- Is the expansion of insurance coverage mandated under the ACA the best way to bring medical security to uninsured Americans? Or would more private insurance competition and less government regulation do more to ensure our health and financial protection?
- Can increased competition and choice in medical markets bring rising health care costs under control? Or will more government regulation and control over the health economy be necessary to deal with the most important fiscal issue facing the United States over the coming century?

Education

There is an enormous dissatisfaction with our current educational system, highlighted by the dismal performance of U.S. students on international tests. A 2012 study assessing the math, science, and reading skills of 15-year-olds across 65 countries found that U.S. students ranked only 17th in reading skills, 20th in science skills, and 27th in math skills, below the international average and behind nations such as Estonia, Austria, and Poland.[32] While this dissatisfaction is widespread, there are once again great differences across the political spectrum on how to address this problem. Liberals generally believe that the problem is that we have not put enough resources into our educational system. They argue that higher pay for teachers and more resources to schools in disadvantaged areas are required to improve the performance of the U.S. system.

"Big deal, an A in math. That would be a D in any other country."

[32] OECD (2012).

Conservatives argue that our system is fundamentally broken and that more resources will not solve the problem. The problem, they argue, is that the public schools that dominate our primary and secondary educational system are local monopolies, with no incentives to improve their performance. What is needed instead, they argue, is to inject into education the same type of competitive forces that have worked so well in other sectors: give students a choice of what school to go to, public or private, and provide them with the resources to make that choice effectively by issuing vouchers for educational expenses that they can use to attend any school they want.

- Can more spending solve the problems of the U.S. educational system? If not, can competition work in the education market as well as it has in other markets? How do we deal with students who are "left behind" by such a system, in areas where there are bad schools and insufficient choice?

1.4 Conclusion

It is clear from the facts presented in this chapter that the government plays a central role in the lives of all Americans. It is also clear that there is ongoing disagreement about whether that role should expand, stay the same, or contract. The facts and arguments raised in this chapter provide a backdrop for thinking about the set of public finance issues that we explore in the remainder of this book.

HIGHLIGHTS

- There are four key questions to consider in the study of public finance. The first is: When should the government intervene in the economy? Our baseline presumption is that the competitive equilibrium leads to the outcome that maximizes social efficiency. So government intervention can be justified only on the grounds of market failure (increasing the size of the pie) or redistribution (changing the allocation of the pie).
- Having decided whether to intervene, the government needs to decide how to intervene. There are many policy options that can be pursued to achieve the same goal, such as public provision, mandates for private provision, and subsidies to private provision.
- When deciding how to intervene, the government needs some approach for evaluating the impacts of alternative interventions on the economy. The tools of empirical economics provide one such approach.
- A major question for public finance is: Why do governments choose to pursue the policies that they do? We are particularly concerned about government failure, whereby government intervention can make problems worse, not better.
- Government, which consists of both national (federal) and local units (states, counties, cities, and towns), is large and growing in the United States and throughout the world. The nature of government spending and revenue sources is also evolving over time as governments move away from being providers of traditional public goods (such as defense) to being providers of social insurance (such as Social Security and health insurance).
- Governments also affect our lives through regulatory functions in a wide variety of arenas.
- Public finance is central to many of the policy debates that are active in the United States today, such as those over the Social Security program, health care, and education.

QUESTIONS AND PROBLEMS

1. Many states have language in their constitutions that requires the state to provide for an "adequate" level of education spending. What is the economic rationale for such a requirement?

2. How has the composition of federal, state, and local government spending changed over the past 40 years? What social and economic factors might have contributed to this change in how governments spend their funds?

3. Some goods and services are provided directly by the government, while others are funded publicly but provided privately. What is the difference between these two mechanisms of public financing? Why do you think the same government would use one approach sometimes and the other approach at other times?

4. Why does redistribution cause efficiency losses? Why might society choose to redistribute resources from one group to another when doing so reduces the overall size of the economic pie?

5. Consider the four basic questions of public finance listed in the chapter. Which of these questions are positive—that is, questions that can be proved or disproved—and which are normative—that is, questions of opinion? Explain your answer.

6. One rationale for imposing taxes on alcohol consumption is that people who drink alcohol impose negative spillovers on the rest of society—for example, through loud and unruly behavior or intoxicated driving. If this rationale is correct, in the absence of governmental taxation, will people tend to consume too much, too little, or the right amount of alcohol?

7. What is the role of the Congressional Budget Office (CBO)? Why are independence and impartiality important when conducting empirical analyses?

8. To make college more affordable for students from families with fewer resources, a government has proposed allowing the student of any family with less than $50,000 in savings to attend a public university for free. Discuss the direct and possible indirect effects of such a policy.

9. The country of Adventureland has two citizens, Bill and Ted. Bill has a private legal business. He earns $50 per hour. At a tax rate of 0%, Bill works 20 hours. At a 25% tax rate, he works only 16 hours, and at a 40% tax rate, he works only 8 hours per week. Ted works in a manufacturing job. He works 20 hours per week and earns $6 per hour, regardless of the tax rate. The government is considering imposing an income tax of either 25% or 40% on Bill and using the revenues to make transfer payments to Ted. The accompanying table summarizes the three possible policies. Does either tax policy raise social welfare? Are either of the policies obviously less than optimal? Explain your answers.

Effects of Redistributive Policies in Adventureland

	0%	25%	40%
Bill's pretax income	$1000	$800	$400
Bill's taxes	0	200	160
Bill's net income	1000	600	240
Ted's pretax income	120	120	120
Ted's transfer payment	0	200	160
Ted's net income	120	320	280

ADVANCED QUESTIONS

10. In the United States, the federal government pays for a considerably larger share of social welfare spending (i.e., spending on social insurance programs to help low-income, disabled, or elderly people) than it does for education spending for grades K–12. Similarly, state and local governments provide a larger share of education spending and a smaller share of welfare spending. Is this a coincidence, or can you think of a reason for why this might be so?

11. The urban African-American community is decidedly split on the subject of school vouchers. Some community leaders strongly support the voucher system and the increased school competition it brings, while others oppose it. Why do you think this split exists?

12. Many states have constitutional requirements that their budgets be in balance (or in surplus) in any given year, but this is not true for the U.S. federal government. Why might it make sense to allow for the federal government to have deficits in some years and surpluses in others?

13. Proper hygiene, such as regular handwashing, can greatly limit the spread of many diseases. How might this suggest a role for public interventions? What kinds of public interventions might be possible? Suggest three distinct types of possible interventions.